

26. (Amended) A removal device for an occlusion in a body passageway comprising:

a catheter for insertion into a graft or other body passageway, said catheter having [a] an open distal end, a lumen, a [support] guide wire insertable through said catheter, said wire having a distal end,

a multi-wing malecot style blocking element on the distal end of said catheter, an annular membrane around said wings of said blocking element,

said multi-wing malecot style blocking element having a radially compressed state for insertion into the body passageway and a radially expanded state extending near to the wall of said passageway to block proximal passage of material around the outside of the distal end of said catheter, and

B1 an occlusion engaging element supported [on] near said distal end of said guide wire, said occlusion engaging element having a radially compressed state for insertion of said wire through said catheter and through or around whatever occlusion is to be engaged and a radially expanded state to engage the occlusion,

expansion of said occlusion engaging element when positioned distally of an occlusion and subsequent proximal movement of said engaging element forcing the occlusion through said open end into said lumen of said catheter.

5 -- 35. A mechanism for use in removing an occlusion in a body graft or other passageway comprising:

a catheter having a lumen and an open distal end,
a multi-wing blocking element positioned near the distal end of the catheter, and

an annular membrane around said wings of said blocking element,

said multi-wing blocking element having a radially retracted insertion state and a radially expanded blocking state,

B2 an actuator associated with said catheter to move said blocking element between said retracted state and said expanded blocking state,

said expanded blocking state, when the catheter is inserted into a body passageway, assuring that occlusion material being removed in a proximal direction from a position in said passageway that is distal of said open end of said catheter will enter said lumen of said catheter through said open distal end and will be blocked by said blocking element from proximal movement along the body passageway external of said catheter.

4 7 36. The mechanism of claim 35 wherein said membrane is elastomeric and is impermeable.

7 37. The mechanism of claim 35 wherein said blocking element is a malecot type device.

8 38. In the method of removing an occlusion from a graft or other body passageway, the improvement comprising the steps of:

inserting a catheter into a graft or other body passageway, said catheter having a lumen, an open distal end and a blocking mechanism at said distal end,

providing said blocking mechanism in a radially compressed state during said step of inserting, and

radially expanding said blocking mechanism into a radially expanded state extending near to the wall of the graft or other body passageway after said step of inserting,

B² using said expanded state of said blocking mechanism for blocking proximal passage of occlusion material around the outside of said catheter, and

proximally moving occlusion material through said open end and into said lumen.

9 39. The method of claim 38 wherein said blocking mechanism is a multi-wing device having an annular impermeable membrane around said wings.-- 8